#3

OIPE

RAW SEQUENCE LISTING DATE: 07/13/2001 PATENT APPLICATION: US/09/893,600 TIME: 13:58:02

Input Set : A:\108172-00057.txt

Output Set: N:\CRF3\07132001\I893600.raw

ENTERED

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3 <110> APPLICANT: Hansen, J. Norman
      5 <120> TITLE OF INVENTION: Construction of a Strain of Bacillus subtilis 168 that
Displays the
              Sublancin Lantibiotic on the Surface of the Cell
      6
      8 <130> FILE REFERENCE: 108172-00057
C--> 10 <140> CURRENT APPLICATION NUMBER: US/09/893,600
C--> 10 <141> CURRENT FILING DATE: 2001-06-29
     10 <150> PRIOR APPLICATION NUMBER: 60/215,449
     11 <151> PRIOR FILING DATE: 2000-06-29
     13 <160> NUMBER OF SEO ID NOS: 3
     15 <170> SOFTWARE: PatentIn version 3.1
     17 <210> SEQ ID NO: 1
     18 <211> LENGTH: 2517
     19 <212> TYPE: DNA
     20 <213> ORGANISM: Artificial Sequence
     22 <220> FEATURE:
     23 <223> OTHER INFORMATION: The EcoRI-HindIII insert of the pLPVc integrative plasmid.
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                                                                              120
     30 catcgcttaa agtttttttg ttttaaaaac ttaaaaaaca tggtaaaatt atataaaaac
                                                                              180
     32 ataagaaaga gtgattatat ggaatatgta gttatgataa tcattttatt agcacttttc
                                                                              240
     34 tttattttta ctqttttcct aaatacacqt tataqttttq atqaaaaatq cttaqtctta
                                                                              300
     36 aaatttggtt tatctaaaac agaaattcca attaatcaaa tagttagtat taaagagtca
                                                                              360
     38 gacaagtatg gagttgcaga taatatcgat tataaaattg gtatgccata tgctcaacca
                                                                              420
     40 gatagaattg ttattgaaac tacaaataag cgttttctag tttttttaaa tgqaqctcaa
                                                                              480
     42 caatttattc aaaagtataa aagggttagt gtttgaacat aaaaaagtac cttcttacaa
                                                                              540
     44 tagaaggtac ttttttgtat ctataattat taaaaattta cctaaatttt tatcattatt
                                                                              600
     46 aattcaaaat aaatccataa tagtcaattt tatttagtgt attacaacca attcggatcc
                                                                              660
     48 aagcacccat tagttcaaca aacgaaaatt ggataaagtg ggatattttt aaaatatata
                                                                              720
     50 tttatgttac agtaatattg acttttaaaa aaggattgat tctaatgaag aaagcagaca
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     52 agtaagcete etaaatteae tttagataaa aatttaggag geatateaaa tgaaetttaa
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     54 taaaattgat ttagacaatt ggaagagaaa agagatattt aatcattatt tgaaccaaca
                                                                              900
     56 aacgactttt agtataacca cagaaattga tattagtgtt ttataccgaa acataaaaca
                                                                              960
     58 agaaggatat aaattttacc ctgcatttat tttcttagtg acaagggtga taaactcaaa
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     60 tacagetttt agaactggtt acaatagega eggagagtta ggttattggg ataagttaga
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     62 gccactttat acaatttttg atggtgtatc taaaacattc tctggtattt ggactcctgt
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     64 aaagaatgac ttcaaagagt tttatgattt atacctttct gatgtagaga aatataatgg
                                                                             1200
     66 ttcggggaaa ttgtttccca aaacacctat acctgaaaat gctttttctc tttctattat
                                                                             1260
     68 tocatggact tcatttactg ggtttaactt aaatatcaat aataatagta attaccttct
                                                                             1320
     70 acccattatt acagcaggaa aattcattaa taaaggtaat tcaatatatt taccgctatc
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     72 tttacaggta catcattctg tttgtgatgg ttatcatgca ggattgttta tgaactctat
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     74 tcaggaattg tcagataggc ctaatgactg gcttttataa tatgagataa tgccgactgt
                                                                             1500
     76 actitttaca gtcggttttc taatgtcact aacctgcccc gttagttgaa gaagggattc
                                                                             1560
     78 gtgtattaca accaattctg tttattgata ggtaataaag ttttttttct atgatttatg
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     80 aacaagtttc cttataattt tcaaaaaaaa ataaaaaata tggttgaatt tagatttatc
                                                                             1680
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82 ttcctttata ttaaaaaatg taatccggat tgcaaacaaa tggggaggtt ttacaaatgg

84 aaaagctatt taaagaagtt aaactcgagg aactcgaaaa ccaaaaaggt agtggattag

1740

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86 gaaaagctca gtgtgctgcg ttgtggctac aatgtgctag tggcggtaca attggttgtg
    88 gtggcggagc tgttgcttgt caaaactatc gtcaattctg cagataaaac atttgtagag
                                                                        1920
    90 ggaatatttt aaatattccc tcatatttaa agcggggatt gaaattgaat aagaaaaaga
                                                                        1980
    92 aatatgttca tactaaacag tttaatagtc atgattgtgg actagcttgt atctcgtcaa
                                                                        2040
    94 ttttaaagtt tcataacctt aactatggaa ttgatttctt actagaccta attggggata
    96 aggaaggcta tagtttaaga gacttaattg ttatttttaa gaagatgggg ataaaaacta
                                                                        2160
    98 ggccacttga attgcaagaa aataagacat tcgaagccct aaaacaaata aagctccctt
                                                                        2220
    100 qtataqcttt qttagaaggg gaggaatatg gacattacat aacaatatac gaaattagaa
                                                                         2280
    102 ataactattt acttgttagt gatcctgata aagacaaaat aactaaaata aaaaaagagg
                                                                         2340
    104 attttgaaag taaattcaca aactttatat tagaaattga caaagagtca attcctgaaa
                                                                         2400
    106 aagaaaaaga tcaaaaaaaa cattcttact tttttaagga catacttttt agaaataaat
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    113 <211> LENGTH: 300
    114 <212> TYPE: DNA
    115 <213> ORGANISM: Artificial Sequence
    117 <220> FEATURE:
    118 <223> OTHER INFORMATION: The sequence of sunA-PG20-SL gene and corresponding peptide
sequence.
    120 <220> FEATURE:
    121 <221> NAME/KEY: CDS
    122 <222> LOCATION: (1)..(300)
    123 <223> OTHER INFORMATION:
    125 <400> SEQUENCE: 2
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                                                                           48
    127 Met Glu Lys Leu Phe Lys Glu Val Lys Leu Glu Glu Leu Glu Asn Gln
    128 1
                                           10
    130 aaa ggt agt gga tta gga aaa gct cag tgt gct gcg ttg tgg cta caa
                                                                           96
    131 Lys Gly Ser Gly Leu Gly Lys Ala Gln Cys Ala Ala Leu Trp Leu Gln
    132
                                       25
    134 tgt gct agt ggc ggt aca att ggt tgt ggc ggc gcc gtt gct tgt
                                                                          144
    135 Cys Ala Ser Gly Gly Thr Ile Gly Cys Gly Gly Gly Ala Val Ala Cys
                35
                                   40
    138 caa aac tat cgt caa ttc tgt aga ggt ggt ggg gga ggc ggg gga
                                                                          192
    139 Gln Asn Tyr Arg Gln Phe Cys Arg Gly Gly Gly Gly Gly Gly Gly
    140
            50
                               55
    240
    70
                                              75
    146 gat gat ttc gat cta gat gtt gtg aaa gtc tct aaa caa gac tca aaa
                                                                          288
    147 Asp Asp Phe Asp Leu Asp Val Val Lys Val Ser Lys Gln Asp Ser Lys
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                       85
                                                                          300
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    151 Ile Thr Pro Gln
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    155 <210> SEO ID NO: 3
    156 <211> LENGTH: 100
    157 <212> TYPE: PRT
    158 <213> ORGANISM: Artificial Sequence
    160 <220> FEATURE:
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Input Set : A:\108172-00057.txt

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161 <223> OTHER INFORMATION: The peptide sequence of sunA-PG20-SL. 163 <400> SEQUENCE: 3 165 Met Glu Lys Leu Phe Lys Glu Val Lys Leu Glu Glu Leu Glu Asn Gln 169 Lys Gly Ser Gly Leu Gly Lys Ala Gln Cys Ala Ala Leu Trp Leu Gln 20 25 173 Cys Ala Ser Gly Gly Thr Ile Gly Cys Gly Gly Gly Ala Val Ala Cys 35 40 177 Gln Asn Tyr Arg Gln Phe Cys Arg Gly Gly Gly Gly Gly Gly Gly Gly 55 75 182 65 70 186 Asp Asp Phe Asp Leu Asp Val Val Lys Val Ser Lys Gln Asp Ser Lys 190 Ile Thr Pro Gln 191 100

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/893,600

DATE: 07/13/2001 TIME: 13:58:03

Input Set : A:\108172-00057.txt

Output Set: N:\CRF3\07132001\1893600.raw

L:10 M:270 C: Current Application Number differs, Replaced Current Application No

L:10 M:271 C: Current Filing Date differs, Replaced Current Filing Date